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SNOW SURVEYS AND IRRIGATION WATER FORECASTS

FOR

RIO GRANDE BASIN

May 1, 1937

The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Bureau of Agricultural Engineering of the U. S. Department of Agriculture, in cooperation with State Departments, other Federal bureaus and local organizations. 1/

The status of precipitation from October to May 1: Records of fifteen precipitation stations, 6,000 feet or more in elevation in Colorado and New Mexico, show precipitation to be above normal. The total snowfall for the winter has been above the average in the mountains. The mean water content of snow as observed on four snow courses on May 1, is approximately two and a half times that existing last year at the same time.

The snow cover in the mountain areas in southern Colorado and northern New Mexico during the past month has been reduced considerably in depth with a corresponding loss in water content. In the San Luis Valley, May 1, the average depth of snow on six courses was 39 percent and water content 55 percent of that of April 1. In the vicinity of the Silver Lakes course, 9,600 feet elevation, 20 snow samples, taken at random, indicated approximately an average depth of one inch with a water content of one-quarter inch. In this area all southern exposures are bare of snow, and the soil is dry. In this area mild temperatures prevailed throughout April and high drying winds from the west and southwest occurred during the last few days of the month. During the early part of the month, rapid thawing of the snow caused floods in the lower areas of the San Luis Valley. Because of the heavy snow cover at the high elevations, the stream flow should be maintained during the irrigation season.

Storage in the principal reservoirs in the Rio Grande drainage basin as of May 1, is given in the attached table. Further filling of these reservoirs may be expected during the late spring run-off from the accumulated snow in the mountain areas.

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Summary of Federal and State Cooperative Snow Surveys
Bureau of Agricultural Engineering, U. S. Dept. Agr.; Forest Service; Colo. Agri. Expt. Station
Issued May 10, 1937. Colo. Expt. Station, Fort Collins, Colo.

2.

Tributary Basins (Primary and Secondary and Snow Courses)	Location			Elev. (Feet)	May 1, Snow Course Measurements				
	State	Sec.	Twp.		Range	Average Snow Depth 1937 (Inches)	Average Snow Depth 1936 (Inches)	Average Water Depth 1937 (Inches)	Average Water Depth 1936 (Inches)
RIO GRANDE									
Wolf Creek Pass	Colo.	4	37N	2E	10,000	74.5	36.0	34.4	17.7
Upper Rio Grande	"	13	40N	4W	9,350	0.0	0.0	0.0	0.0
Cumbres Pass	"	17	32N	5E	10,000	53.6	20.3	32.7	11.7
LaVeta Pass <u>2/</u>	"	23	28S	70W	10,500	2.7	0.0	1.0	0.0
Silver Lakes	"	15	36N	5E	9,600	0.0	---	0.0	---
River Springs	"	25	33N	6E	9,300	5.3	---	1.7	---
Red River	New Mex.	29	28N	15E	9,500				
Taos Canon	"	10	25N	15E	9,000				
Hematite Park <u>2/</u>	"	8	28N	15E	9,500				
Holman Hill	"	10	22N	14E	9,400				
Aspen Grove	"	12	18N	10E	9,100				
Lee Ranch	"	3	18N	4E	9,050				
Canjilon	"	4	26N	6E	9,500				
Rio Nutrias	"	6	27N	5E	7,900				
Panchulela Creek	"	34	19N	12E	8,500				
CANADIAN									
Hematite Park	New Mex.	8	28N	15E	9,500				
Ocate Mesa	"	25	24N	16E	9,200				

No May First observations taken on New Mexico Courses.

1/ The snow measurements are made principally by field personnel of the U. S. Forest Service and Colorado State Engineer. This work is otherwise conducted cooperatively with the State Engineers of Colorado and New Mexico, U. S. Weather Bureau, and Colorado Agricultural Experiment Station, and various municipalities, irrigation associations and others.

2/ In adjacent drainage.

(4787-37)

Reservoir Storage in Acre-Feet, Rio Grande Drainage, as of May 1, for the Years 1927-1937 inclusive
(Based on data gathered by the State Engineer of Colorado and the U. S. Bureau of Reclamation)

Year	Rio Grande (45,800) Ac-ft.	Santa Maria (45,000) Ac-Ft	Sanchez (25,900) Ac-Ft	Terrace (17,700) Ac-Ft	Continental (26,700) Ac-Ft	Elephant Butte (2,407,100) Ac-Ft
1927	17,300	13,100	10,400	3,400	---	1,085,100
1928	32,700	23,900	13,000	7,100	200	1,280,600
1929	8,500	9,900	7,500	4,500	2,300	901,300
1930	34,000	29,900	13,000	7,000	6,700	1,598,900
1931	5,700	12,000	12,700	1,000	900	1,238,200
1932	2,700	4,800	10,200	1,900	40	1,158,000
1933	15,300	7,000	10,200	600	6,500	1,275,300
1934	4,900	6,800	12,000	1,450	2,650	1,001,600
1935	300	4,600	7,400	1,300	800	488,000
1936	23,600	6,900	13,800	6,400	3,300	782,500*
1937	16,300	9,500	17,600	4,500	500	915,400*
11-yr. Ave.	14,700	11,700	11,600	3,560	2,390	1,066,800
1937 percent of cap.	35	21	68	25	2	40
1937 percent of ave.	110	81	152	126	21	86

*Based on capacity of 2,273,700 Acre-Feet.

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